EA Form R 1/2001

Montana Department of Natural Resources and Conservation
Water Resources Division
Water Rights Bureau

ENVIRONMENTAL ASSESSMENT
For Routine Actions with Limited Environmental Impact

Part I. Proposed Action Description

1. *Applicant/Contact name and address*: Fairhaven Colony Inc
P.O. Box 29
Ulm, MT 59485

2. *Type of action*: Application To Change A Water Right No. 41QJ-30026962

3. *Water source name*: Groundwater (Madison Group)

4. *Location affected by project*:

The proposed point of diversion is located in SWNWNW Section 24, T20N, R1W, Cascade County. The place of use for this project is located in the E2 Section 23, T20N, R1W, Cascade. Specific uses and locations follow:

Purpose	Location
Multiple Domestic (28 homes & 4 shops)	N2NE Section 23
Stock	S2NE Section 23
Irrigation (80 acres - Corn Silage)	E2 Section 23
Irrigation (6 acres - Garden)	W2NE Section 23

5. *Narrative summary of the proposed project, purpose, action to be taken, and benefits*:

The application is to off-set impacts from a new appropriation of ground water and change the point of diversion and place of use of an existing irrigation water right (41QJ-18766). Both the existing (water right to be changed) and proposed ground water appropriations are from wells developed in the Madison group. The well and place of use proposed to be changed are located in Sections 1 and 12, T19N, R01E, Cascade County. The proposed locations of the new well, purposes, and places of use are stated above. The amount of water to be changed is 170 gpm up to 179 acre-feet per year. Water will be withdrawn at the well in Section 24 and pumped to three storage facilities (two 40,000 gallon above-ground storage tanks in the NENWNE Section 23, and a 27.5 acre-ft pit/reservoir in the NE Section 23), prior to final delivery at the places of use listed above.

Agencies consulted during preparation of the Environmental Assessment:
(include agencies with overlapping jurisdiction)

MT Dept. of Environmental Quality	- Final 2004 Montana Water Quality Integrated Report
MT Dept. of Fish, Wildlife and Parks	- Montana Fisheries Information System
MT Natural Heritage Program	- Species of Concern, T/E
MT Dept. of Agriculture	- Weed Survey and Mapping System
US DOI/Fish and Wildlife Service	- National Wetlands Inventory
MT Historical Society	- Historical/Archeological Sites

Part II. Environmental Review

1. Environmental Impact Checklist:

PHYSICAL ENVIRONMENT

WATER QUANTITY, QUALITY AND DISTRIBUTION

Water quantity *- Assess whether the source of supply is identified as a chronically or periodically dewatered stream by DFWP. Assess whether the proposed use will worsen the already dewatered condition.*

Determination: Low likelihood of impact.

The withdrawal of water from the Madison aquifer will not negatively impact surface water, since the amount of water proposed for change or to off-set new uses is the same as that amount of water to be used in the new location. The application of said water could potentially increase flows and available water in the Dry Fork watershed, particularly during the irrigation season.

Water quality *- Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.*

Determination: Low likelihood of impact.

The withdrawal of water from the Madison aquifer will not likely impact ground water quality. However, waste water from the livestock operation and irrigation water not consumed by the crops could migrate into the nearest surface water drainage (Dry Fork, tributary to Little Muddy Creek). Dry Fork is an ephemeral stream, and joins Little Muddy Creek several miles down gradient from the project site. While it is possible that wastewater and sediments may reach reservoirs built in the upper Dry Fork drainage, it is unlikely that the project will significantly impact water quality in Little Muddy Creek.

Groundwater *- Assess if the proposed project impacts ground water quality or supply. If this is a groundwater appropriation, assess if it could impact adjacent surface water flows.*

Determination: Low likelihood of impact.

The proposed project will consist of a 7" well drilled into the Madison group. At present there are three wells within the radius of influence (ROI). Given that the proposed project would lead to projected drawdowns between 1.5 and 2.3 feet in wells with several hundred feet of water column beneath the pumping water level, the appropriation of waters by the Colony is not expected to impact other water users within the Madison group.

The consultant estimated the total volume of water physically available from Darcy's law, calculating the total flux through a control volume based upon the ROI (specifically the diameter of the cone of depression), a transmissivity value of 500 ft^2/day, and a gradient based upon the regional dip of the Madison group. Using this method, the estimated flux was 1737.4 AF/YR. In comparison with the legal demand on the aquifer, this leaves 882.3 AF/YR available for appropriation, well in excess of the 179 AF/YR requested by the applicant. Although this application creates a new ROI at the proposed well location, the amount of water available in the Madison group, on a regional scale, should not change.

The Madison group lies several hundred feet below the land surface, and there are no known structural features (faults) in the immediate area to allow communication between formations. As such, it is unlikely that the project will impact adjacent surface water flows.

DIVERSION WORKS - *Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.*

Determination: Low likelihood of impact.

The project consists of one well completed in the Madison aquifer. The well is grouted to 1536 feet, with the remaining 314 feet open to the formation. It is unlikely that any significant impact would occur.

UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES

Endangered and threatened species - *Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants or aquatic species or any "species of special concern," or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or "species of special concern."*

Determination: Minor adverse impact.

There is one avian species of concern located in the project area. While the species has shown the ability to adapt to human intrusion, the project will replace preferred nesting habitat with residences and crops.

Wetlands - *Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.*

Determination: Low likelihood of impact.

There are no known wetlands in the area of potential impact.

Ponds *- For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.*

Determination: Low likelihood of impact.

There are no known ponds in the area of potential impact.

GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE - *Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.*

Determination: Low likelihood of impact – minor adverse impact.

Soils in the area primarily consist of Tanna Clay Loam. These are moderately deep, well drained soils with moderate available water capacity and slow permeability. Erodibility is categorized as moderate from wind and water. These soils are used predominantly for dryland crops and range use. (Cascade County Soil Survey, USDA Soil Conservation Service)

Likely some short-term surface disturbance and erosion will occur with the initial installation of the irrigation system. Long-term effects (erosion, salinity, etc.) will depend upon management, but it is expected that farming practices will minimize any potential impact.

VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS - *Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.*

Determination: Low likelihood of impact – minor adverse impact.

No noxious weeds are known to be present in the project area. While the aforementioned disturbance from project construction may encourage the establishment of noxious weeds, the disturbance should be localized. It is the responsibility of the property owner to control noxious weeds on their property.

AIR QUALITY - *Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.*

Determination: Low likelihood of impact.

If the project is powered by electricity delivered from the existing distribution system, no localized impacts associated with power generation would occur.

HISTORICAL AND ARCHEOLOGICAL SITES - *Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project.*

Determination: Low likelihood of impact.

There are no known archeological or historical sites in the area of interest. Given this project has already been initiated, the Montana Historical Society has determined that any cultural sites that may have been present would already have been impacted.

DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY - *Assess any other impacts on environmental resources of land, water and energy not already addressed.*

Determination: Low likelihood of impact.

No additional impacts are anticipated.

HUMAN ENVIRONMENT

LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS - *Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.*

Determination: The proposed action is consistent with land management goals and environmental plans in the area.

ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES - *Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.*

Determination: Low likelihood of impact.

The proposed action should not impact recreational activities in the area.

HUMAN HEALTH - *Assess whether the proposed project impacts on human health.*

Determination: Low likelihood of impact.

The proposed action should have no impacts on human health.

PRIVATE PROPERTY - *Assess whether there are any government regulatory impacts on private property rights.*

Yes___ No **X** *If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights.*

Determination: Low likelihood of impact.

OTHER HUMAN ENVIRONMENTAL ISSUES - *For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.*

Impacts on:

(a) *Cultural uniqueness and diversity?* **No**

(b) *Local and state tax base and tax revenues?* **No**

(c) *Existing land uses?* **No**

(d) *Quantity and distribution of employment?* **No**

(e) *Distribution and density of population and housing?* **No**

(f) *Demands for government services?* **No**

(g) *Industrial and commercial activity?* **No**

(h) *Utilities?* **No**

(i) *Transportation?* **No**

(j) *Safety?* **No**

(k) *Other appropriate social and economic circumstances?* **No**

2. *Secondary and cumulative impacts on the physical environment and human population:*

Secondary Impacts: No secondary impacts are anticipated.

Cumulative Impacts: No cumulative impacts are anticipated.

3. *Describe any mitigation/stipulation measures:* This application includes retiring irrigated acreage, and the associated volume of water, to off-set any potential reduction in flows to Giant Springs near Great Falls.

4. *Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:*

No action alternative: Deny the application.

PART III. Conclusion

1. Preferred Alternative: Action Alternative.

2 Comments and Responses

3. ***Finding:***
*Yes___ No_**X**_ Based on the significance criteria evaluated in this EA, is an EIS required?*

If an EIS is not required, explain <u>why</u> the EA is the appropriate level of analysis for this proposed action:

No significant impacts have been identified, therefore an EIS is not necessary.

Name of person(s) responsible for preparation of EA:

Name: Doug Mann
Title: Water Resources Specialist, Lewistown Regional Office
Date: 4/10/2007